IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of
Chip, et al.

		Art Unit:	1771
Application No.:	09/993,745	Examiner:	BOYD, Jennifer A.
Filed:	November 14, 2001	Docket No.:	GT-5400 OMNS 200051

For: MODIFIED COPOLYMER LATEX BINDER

MAIL STOP Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL OF
APPEAL BRIEF UNDER 37 C.F.R.§41.37

Dear Sir:

Applicant transmits herewith an APPEAL BRIEF UNDER 37 C.F.R.§41.37 for the above-reference patent application.

Payment in the amount of **$500.00** for the filing of this Appeal Brief is authorized to be charged to a Credit Card. The appropriate form PTO-2038 is enclosed for this purpose. If the Credit Card is unable to be charged, please charge any and all fees or credit any overpayment to Deposit Account No. 06-0308.

Respectfully submitted,

FAY, SHARPE, FAGAN,
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Cathryn Terchek

Date: December 12 2005

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	Chip et al.
For	:	**MODIFIED COPOLYMER LATEX BINDER**
Serial No.	:	09/993,745
Filed	:	November 14, 2001
Group Art Unit	:	1771
Examiner	:	Boyd, Jennifer A.
Last Office Action	:	July 13, 2005
Attorney Docket No.	:	GT-5400 OMNS 200051

APPEAL BRIEF UNDER 37 C.F.R. §41.37

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This Appeal Brief is in furtherance of the Notice of Appeal and the Pre-Appeal Brief Request For Review that was mailed to the U.S. Patent and Trademark Office on August 17, 2005.

The fees required under 37 C.F.R. §41.20(b)(2) and any required petition for extension of time for filing this brief and fees therefor, are dealt with in the accompanying Transmittal of Appeal Brief.

Appellant files herewith an Appeal Brief in connection with the above-identified application wherein claims 1-10 were finally rejected in the Final Office Action of July 13, 2005.

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Cathryn Terchek

Date: December 12 2005

I. REAL PARTY IN INTEREST (37 C.F.R. §41.37(c)(1)(i))

The real parties in interest in this appeal are the inventors named in the caption of this brief (Gerald Chip and Chris Wilkey) and the assignee of their interests, Omnova Solutions Inc.

II. RELATED APPEALS AND INTERFERENCES (37 C.F.R. §41.37(c)(1)(ii))

Currently, it is believed that there are no other appeals or interferences in process or pending before the U.S. Patent and Trademark Office which the present application bases its priority from, or any cases which base their priority upon the present application, that will directly affect, or will be directly affected by, or will have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS (37 C.F.R. §41.37(c)(1)(iii))

The status of the claims set forth after the final office action mailed July 13, 2005 was, and is, as follows:

Allowed:	none
Rejected Claims:	1-10

The present appeal is directed specifically to claims 1-10.

IV. STATUS OF THE AMENDMENT (37 C.F.R. §41.37(c)(1)(iv))

No amendments have been made that have not been entered by the Examiner.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER (37 C.F.R. §41.37(c)(1)(v))

The present claims are directed to a copolymer latex binder for polyester mats comprising 10 – 90 weight% styrene-butadiene resin and 90 – 10 weight% urea-formaldehyde resin, wherein the UF resin is prepared using a short stop agent in the UF resin reaction system.

The claims are also directed to a single layer sheet comprising a layer of polyester mat coated with a binder composition, wherein the binder composition comprises 10 – 90 weight% styrene-butadiene resin and 90 – 10 weight% urea-

formaldehyde resin, wherein the UF resin is prepared using a short stop agent in the UF resin reaction system.

Additional claims relate to specific embodiments of the above described binder and sheet.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL (37 C.F.R. §41.37(c)(1)(vi))

The Examiner has rejected claims 1-10 under 35 U.S.C. §112, first paragraph as allegedly failing to comply with the enablement requirement. The Examiner also rejected claims 1-10 under 35 § U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 4,539,254 to O'Connor et al. ("O'Connor").

VII. ARGUMENTS (37 C.F.R. §41.37(c)(1)(vii))

Claims 4-6 and 66-82 have been rejected as being anticipated by Qin *et al.* (US Pat. 5,550,189) under 35 U.S.C. § 102(b). Appellants respectfully traverse the rejection as follows.

A. The Enablement Rejection

The Examiner rejected claims 1-10 under 35 U.S.C. §112, first paragraph as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains to make and use the invention. Specifically, the Examiner objected to the fact that no chain length limitations were provided for the UF polymer, the amount of short stop agent used in the system and the time at which the short stop agent is added.

The Examiner further stated that "the amount of short stop agent added to the system and the predetermined time the short stop agent is added would materially affect the properties of the final product. However, by providing no specific value or range for the amount of short-stop agent added, the Examiner can assume that even minute amount of short stop agent would meet the claim limitations. Furthermore, the Applicant has not claimed any desired properties that would imply a certain amount of short stop agent added and a predermined time at which it was added." (Office Action, July 13, 2005, page 3).

Appellants submit that these comments are disingenuous at best and flat-out incorrect at worst. First, Appellants agree with the Examiner that the amount of short-stop agent added would affect the properties, but completely disagree that by providing no specific value of the amount of short-stop agent, that even minute amounts of short-stop agent would meet the claim limitation.

As is well understood, claims must be read in light of the specification and also must be understood as one skilled in the art would understand them. In this respect, and despite the Examiner's statement above, the Appellants have provided a description of properties desired in the short-stopped UF resin, specifically improvements in hot dry elongation (page 1, lines 17-24 and table 2) as well as stability (see table 1).

Therefore, one skilled in the art would understand the claims to read on UF resins having an appropriate amount of short stop agent added to effect the desired improvements in the polyester mats. That is, even though no specific amounts of short-stop agent are recited, one skilled in the art would clearly understand the claims to read on those amounts of short-stop agent that would be workable and produce the desired results. The Examiner's position that minute amounts of short-stop agent no producing any change in the UF resin or effecting any change in a mat utilizing a binder made from such a resin would still read on the claims is not supported. The claims are not read in a vacuum, but as one skilled in the art would understand them, including what would be workable based on the advantages disclosed in the specification.

In addition, the Appellants have disclosed a specific short-stopped UF resin suitable for use in the present invention, 2023-30 available from Dynea Oy (as detailed on page 7, lines 25-29). One skilled in the art would be able to determine the amount of short-stop agent used in this resin by chemical analysis. Alternately or in addition to such analysis, one skilled in the art would be able to determine the properties of such a resin compared to a non-short stopped UF resin. Based on this comparison, such a person would be able to experimentally determine the amount of short-stop agent necessary to produce similar results in producing similar UF resins. Thus, Appellants submit that one skilled in the art would be able to not only determine how to produce such a short-stopped UF resin, but also that the

application satisfies the enablement requirement by allowing one to therefore practice the invention without undue experimentation.

Appellants submit that no specific values were provided for the above mentioned parameters as they may vary depending on the characteristics desired in the final product. That is, by varying the amount of short stop agent added as well as the predetermined time at which it was added to the UF resin polymerization reaction, different UF resins may be manufactured having various properties. Appellants submit that various manufacturer's of such short stopped UF resins may alter their polymerization processes to make various suitable UF resins. One skilled in the art could determine appropriate UF polymerization conditions including the appropriate amount of short stop agent and timing to produce desired properties in the UF resin according to the present claims. As is well known, a disclosure is sufficient even if it would require that one skilled the art conduct some experimentation. *In re Vaeck*, 20 USPQ2d 1510 (Fed. Cir. 1993).

Appellants submit that these claims thus satisfy §112, first paragraph, irrespective of the fact that the amount of short stop agent added to the UF resin is not disclosed. Suitable amounts based on desired properties could be determined without undue experimentation by one skilled in the art. The Dynea resin used in the disclosed examples is but one formulation by one manufacturer.

A. The Pending Claim are not Obvious Over O'Connor

The Examiner rejected claims 1-10 under 35 U.S.C. §103(a) as being unpatentable over O'Connor. Appellants respectfully traverse.

O'Connor has been cited previously by the Examiner in combination with U.S. Patent Application Publication No. 2002/0117279 to Wertz. In that Office Action, the Examiner acknowledged that O'Connor did not disclose the use of a short stop agent in the preparation of the UF resin. The Examiner is now contending that the UF resin of O'Connor is equivalent to the short-stopped UF resin of the present claims and asserts that "a minor amount of shortstop agent could be added towards the polymerization process which would result in a minimal impact on the structural and physical characteristics of the polymer."

Appellants respectfully disagree and submit that the Examiner has not met her burden of presenting a prima facie case of equivalence between the UF resin of O'Connor and the short-stopped UF resin of the present application. In this respect, to render a product by process claim unpatentable, the Examiner must show that the product is the same as or obvious from a product in the prior art. To meet her prima facie burden of this, the Examiner must provide some supported rationale or explanation to show that the claimed product is the same as that in the prior art. Here, the Examiner has provided no such rationale besides her unsupported allegation that a minor amount of short stop agent would result in a minimal impact on the characteristics of the polymer. Where does the Examiner find support for this statement?

Even assuming the correctness of the Examiner's statement that a very minor amount of short-stop agent would result in a UF resin with properties similar to non-short stopped UF resin, such a resin would not read on the present claims as it would essentially vitiate one of the claimed limitations, i.e. that the UF resin is short-stopped.

As discussed above, one skilled in the art would read claim 1 to recite a short-stopped UF resin having properties *different* from conventional non-short stopped UF resins. That is, the amount of short-stop agent added must be sufficient to produce the desired properties in the resulting binder, as discussed in the specification. By reciting a short-stopped UF resin, Appellants are clearly distinguishing it over non-short stopped UF resins. Otherwise, the recitation of the use of a short-stop agent would be unnecessary and its inclusion would provide no meaning. Appellants have shown in Example 1 of the specification that the short stopped UF resin produces products having improved properties. Thus, such a UF resin is clearly different both in structure and properties from conventional UF resins as in O'Connor. One skilled in the art would understand the amount of short-stop agent must be in the range of what is known to be workable and produce the desired results in the final product.

Appellants submit that the Examiner has NOT met her burden of proving prima facie obviousness and that the burden has NOT shifted to the Appellants to prove distinctiveness of the short-stopped UF resin. Appellants further

submit that it requires some scientific support to shift this burden and that the Examiner's unsupported allegations of sameness are insufficient.

Because O'Connor does not disclose or suggest the use of a short-stopped UF resin, it fails to anticipate or render the present claims obvious. Withdrawal of this rejection is requested.

CONCLUSION

In view of the above, Appellant respectfully submits that claims 1-10 are in condition for allowance.

Accordingly, it is respectfully requested that the Examiner's rejections be reversed.

Respectfully submitted,

FAY, SHARPE, FAGAN
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Dated: Dec 12, 2005

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VIII. APPENDIX OF CLAIMS (37 C.F.R. §41.37(c)(1)(viii))

1. A modified copolymer latex binder for polyester fibers comprising at least 10 wt% - 90 wt% styrene-butadiene and a corresponding amount of 90 wt% - 10 wt% of a urea-formaldehyde resin wherein the urea-formaldehyde resin is prepared by adding a short-stop agent to the urea-formaldehyde resin reaction system.

2. The modified copolymer latex binder of claim 1 wherein the latex binder comprises about 70 wt% styrene-butadiene and about 30 wt% of a urea-form aldehyde resin.

3. The modified copolymer latex binder of claim 2 wherein the styrene-butadiene latex comprises about 10-90 wt% styrene and about 90-10 wt% butadiene modified by a cross-linking agent.

4. The modified copolymer latex binder of claim 3 wherein the styrene-butadiene latex comprises about 30-70 wt% styrene and about 70-30 wt% butadiene modified by a cross-linking agent.

5. The modified copolymer latex binder of claim 3 wherein the styrene-butadiene latex comprises about 40 wt% styrene and about 60 wt% butadiene modified by a cross-linking agent.

6. A sheet comprising a single layer of nonwoven or woven polyester mat coated with a binder composition including at least 10 wt% - 90 wt% styrene-butadiene latex and 90 wt% - 10 wt% urea-formaldehyde wherein the urea-formaldehyde resin is prepared by adding a short-stop agent to the urea-formaldehyde resin reaction system.

7. The sheet of claim 6 wherein the latex binder comprises about 70 wt% styrene-butadiene and about 30 wt% of a urea-formaldehyde resin.

8. The sheet of claim 6 wherein the styrene-butadiene latex comprises about 10-90 wt% styrene and about 90-10 wt% butadiene modified by a cross-linking agent.

9. The sheet of claim 6 wherein the styrene-butadiene latex comprises about 30-70 wt% styrene and about 70-30 wt% butadiene modified by a cross-linking agent.

10. The sheet of claim 6 wherein the styrene-butadiene latex comprises about 40 wt% styrene and about 60 wt% butadiene modified by a cross-linking agent.